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REPORT TO THE COMMITTEE ON
NATURAL RESOURCES & CULTURE

CROSS-CONNECTION AND BACKFLOW PROTECTION

BACKGROUND

Cross-connections are unprotected actual or potential connections between a potable water system and any source or system containing unapproved water or a substance that is not or cannot be approved as safe. Over the last several years, the American Water Works Association, Pacific Northwest Section, has documented hundreds of incidents involving cross-connections that have resulted in a backflow of contaminants into the potable water supply. Examples include illness caused by pesticides, antifreeze, metals, paint solvents, and acid entering the potable water supply. Locally, four cafeteria workers became ill in April 1996, when cleaning chemicals leaked into the drinking water at Santana High School in Santee. A similar incident occurred at the County Administration Complex in January of this year, when fire suppression demands caused a back siphonage, resulting in contamination of drinking water throughout the building. More than 20 people reported water related illness from that event.

To prevent contaminants from being drawn into our potable water supply through an undesirable reversal of flow in our water distribution system, San Diego Municipal Code section 44.0114 requires the installation of devices between the potable water supply and source of potential contamination. These devices, frequently referred to as cross-connection and backflow protection, are described in the Uniform Plumbing Code section 603. In California, specific requirements and application of these devices are set forth in the California Code of Regulations, title 17, sections 7583 - 7605.

On June 24, 1996, you requested this office review requirements imposed upon private property owners by the City's cross-connection and backflow prevention program, and determine whether the requirements are more stringent than mandated by State and Federal laws. This committee also requested an examination of whether the City's regulations are truly necessary and commensurate with actual threats to the integrity of San Diego's potable water supply.

QUESTIONS

1. Is the City's cross-connection and backflow prevention program more stringent than mandated by State and Federal laws?
2. Is the City's cross-connection and backflow prevention program truly necessary and commensurate with actual threats to the integrity of our potable water supply?

SHORT ANSWERS

1. Given the State Department of Health Services' 1994 critique of the City's cross-connection and backflow prevention program, San Diego's program is fundamentally no more stringent than mandated by State and Federal laws.
2. Yes, based on information provided by the City's Water Utilities Department, the City's cross-connection and backflow prevention program appears to be truly necessary and commensurate with actual threats to the integrity of our potable water supply.

DISCUSSION

1. Considering the State Department of Health Services' 1994 critique of the City's program, San Diego's program is fundamentally no more stringent than mandated by State and Federal laws.

On April 27, 1993, the Water Utilities Department implemented its revised Department Instruction 55.21, which sets forth policy and procedures on cross-connection and backflow prevention. In 1994, the State Department of Health Services performed a Sanitary Survey of the Water Utilities Department. The State's survey found the City to be out of compliance. As

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a result, the City's Water Utilities Department entered into a Compliance Agreement¹ with the State. City Council approved this Compliance Agreement on November 28, 1994.

Part of this Compliance Agreement set forth obligations by the City to correct numerous deficiencies in the City's cross-connection and backflow program. The deficiencies included, but were not limited to, the following:

- (1) Failure to complete a survey to identify water user premises where cross-connections are likely to occur;
- (2) Inadequate staffing of certified cross-connection specialists to accomplish this survey;
- (3) Deficiencies in the installations of City owned backflow prevention devices and air/vacuum valves located below grade that could cause a cross-connection; and,
- (4) Violation of California Code of Regulations, title 17, section 7585 (Group 3, Chapter 5), in that the City is not meeting the requirement that the water supplier shall evaluate the degree of potential health hazard to the public water supply which may be created as a result of conditions existing on a user's premises.

According to Water Distribution Division management, it is the City's response to these deficiencies that has created the majority of criticisms against the City's cross-connection and backflow prevention policy and procedures.

The major complaint against the City's cross-connection and backflow prevention policy, as relayed by Water Distribution Division Management, is the requirement for backflow protections in "shell buildings." This office believes the requirement is justified, especially considering the State's criticism of the City's previous policy implementation, that "[t]he City is not meeting the requirements . . . that the water supplier shall evaluate the degree of potential health hazard to the public water supply which may be created as a result of conditions existing on a user's premises." State Department of Health Services Compliance Agreement No. 04-14-94CO-004, Item 3. The transient nature of tenants, combined with

¹Compliance Agreement No. 04-14-94CO-004.

typical hazards found in shell buildings, make them the type of structure that justify the City's policy. Many water suppliers require cross-connection and backflow prevention for shell buildings since these structures often contain businesses where cross-connections occur but entry is restricted, resulting in infrequent inspections. 17 C.C.R. § 7585(d).²

The cross-connection and backflow prevention regulations in the California Code of Regulations, title 17, specifically mandate that the water supplier's cross-connection control program shall include, but not be limited to, the adoption of operating rules or ordinances to implement the cross-connection program. 17 C.C.R. § 7584(a). The Water Utilities Department has complied with this requirement through the adoption of Department Instruction 55.21. When the State ordered the City to improve implementation of its cross-connection and backflow prevention program, the City complied. The City's cross-connection and backflow prevention policy is fundamentally no more stringent than mandated by state and federal laws.³ The City's approved response to State mandates, not City-initiated policies, are the source for the complaints against the City's cross-connection and backflow prevention program.

2. Based on information provided by the Water Utilities Department, the City's cross-connection and backflow prevention program appears to be truly necessary and commensurate with actual threats to the integrity of our potable water supply.

The Water Utilities Department, Water Distribution Division, has collected several hundred reports of incidents caused by inadequate cross-connection and backflow prevention. Information included as attachments to Manager's Report No. 96-133, issued June 19, 1996, provides strong support that the City's cross-connection and backflow prevention program is based on sound technical and legal grounds. Consequently, the Department's policies and

²According to a survey of local water suppliers by the San Diego Water Utility Department, Carlsbad, Olivenhain, Otay, Rainbow, Ramona, Rincon, San Dieguito, Santa Fe, Sweetwater, Vallecitos, and Vista all require backflow prevention for shell buildings (other than residential).

³However, cities are not preempted from imposing more restrictive cross-connection and backflow prevention requirements. California Water Code § 13002; 17 C.C.R. § 7584; People ex rel. Deukmejian v. Mendocino County, 36 Cal. 3d 476, 485 (1984); People v. New Penn Mines, Inc., 212 Cal. App. 2d 667, 674 (1963).

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practices appear responsive to concerns from the State and County, as well as actual experiences here in San Diego.

Understanding the limitations of our response to this question (i.e., a legal opinion, opposed to an engineering opinion), it appears that the City's cross-connection and backflow prevention program is truly necessary and commensurate with actual threats to the integrity of our potable water supply.

CONCLUSION

The complaints which brought this issue before the Natural Resources and Culture Committee seem to have arisen contemporaneously with the Water Utilities Department's recent modifications to implementing the City's cross-connection and backflow prevention program. These modifications were the result of State Department of Health Services mandates issued in late 1994. The City's changes in implementing the cross-connection and backflow prevention program appear in alignment with state and federal requirements, although the City could certainly require stricter controls.

Respectfully submitted,

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